

[The New York Infrastructure Observatory](#)

Session Two: 2014.11.20

Location: Sims Metal Management's Sunset Park facility

472 2nd Ave, Brooklyn, NY 11232



Present:

- Spencer Wright
- Jason Spinell
- Daniel Suo
- Athena Diaconis
- Jiayi Ying
- Benny Zhu
- Mark Breneman

Arrived at: 1400

Tour began at: ~1430

Tour completed at: ~1600

Tour guide was named Eadaoin Quinn

Notes taken & compiled retrospectively by all present
Group photos & videos [on Dropbox, here.](#)

Spencer's Notes:

First: When we arrived at Sims, we immediately saw that they were installing a wind turbine in the front of the building. It will eventually generate about 100kW, which is in the neighborhood of 2% of the facility's energy usage.

This facility processes streetside recycling for the Bronx, Queens, Manhattan and Brooklyn (I believe Staten Island goes elsewhere). Brooklyn and Queens deliver directly by truck; the Bronx delivers by barge from a transfer station in Hunts Point; Manhattan will soon be delivering by barge from a station on the West Side. Sims does *not* handle commercial or construction waste. Our tour guide said that there are about 250 commercial carriers, each of which has their own sorting facilities and policies. At some point in the future, it's possible that Sims would contract to process their product as well, but it's not clear when.

It costs \$65-70 per ton in "[tipping fees](#)" to process waste at Sims. For comparison, it costs the city \$100+ per ton to put waste in a landfill.

All told, recycling costs the city money. In the early 2000s, [Mayor Bloomberg cancelled most of NYC's streetside recycling](#), saying that it just wasn't economically feasible. He later reversed his stance, but the cost-benefit analysis (at least in the short term) still isn't great.

Sims processes 600+ tons of product (i.e. recyclables: bottles, cans, paper, etc) per day. They have two daytime shifts, running from 0800 to 2400. They run maintenance daily from 000 to 800, plus another eight hour shift on the weekend.

They try not to shut down for maintenance during the workday, but it does happen. They *hate* plastic bags here (our tour guide had testified in favor of a plastic bag tax the day before we arrived). They're difficult to process, clog up the machines, and have essentially zero resale value. When unplanned maintenance does happen, it seems to usually be the result of plastic bags. Sims processes about 30 tons per day of bags alone.

Another surprise was the way they process glass. Because glass isn't sorted and handled carefully, it essentially lands at their door partially crushed. It's then crushed further (by their [disc screens](#)), and then allowed to filter through their process chain, ending up literally at the bottom of their machines. From there it's sent by barge to [Sims' Jersey City facility](#), which expects everything to be roughly 3/8" in any dimension. There, it's scanned and sorted optically between clear and non-clear. Clear glass can be resold

and recycled, but it's **really** difficult to sort brown from green - and the two cannot be recycled together. As a result, they're sold as underlayment for public works projects - roadbeds, foundations, etc. Oh - and Sims has some in a planter in the front of their building, too.



The facility's big bragging point, though, is its 16 [Titech](#) optical sorting machines. These track the frequency response as items run down conveyors and have infrared light shown at them; different plastics respond differently, and are sorted by pneumatic sprayers as a result. The whole process is totally automated and [pretty cool](#).

Mark's Notes:

History

2003 NYC Request RFP's

2010 broke grind

Opened 2013

Annabell Seldorf Architects designed the building
Sims is the Largest metal and electronics recycling
Three branches to the business

- Metal management
- Recycling solutions - This is consumer electronics?
- Municipal recycling - This is the one in Brooklyn

Sims in Brooklyn is only working with the City not individual companies. They themselves own no trucks.

Their contract is with NYC for 20 years

City paid for infrastructure, rail, docks. They(Sims) paid for building.

In the Future they are proposing a Marina on Gansevoort street for Manhattan. In progress

City pays for the sorting. Tipping fees for recycling is 60-75 per tonne. Landfill is over 100 a tonne. Tipping fees are half of the facility's revenues.

Paper they pay the city for.

City is not making money on recycling.

***How to make recycling more cost effective? Pack the trucks tighter. Longer hours. ***

Process

Steps of Separation

- Liberator and shredder pulls from the pile. Opens the plastic bags.
- Disc screens separates down to 4 inches.
- Drum magnets. Less than 8 and greater than 8 inches.
- Ballistics separator separates 2d to 3d paper bins.
- Titech - optical scanner-spectrometer. Air separation. 16 scanners. Super redundant.
- Eddy current separator gets repelled non ferrous. Most high value for them.
- Human sort is the last part of the sort.
- Baler - compression bale of plastic bottles. Half tonne. 1200lbs. &350-400 per bale. Baler 3x4x3. Standard volume.

Pricing at the beginning of the month. Sells to 3-5 vendors to stay diversified. Bidding on Simms bales. 700-900 bales per month of all materials.

No sanitation all dirty.

Aluminum bales attract flies.

Revenue sharing with the city based on national prices.

Plastic bags cannot find a market for

HDPE is a bigger market.

Transportation costs are a real driver for cost determinates.

Location near water is important

Queens & parts of Manhattan delivery via East River

Brooklyn by truck

PET is most competitive.

Steel bales

Glass cullet

HDPE - price has really gone up because the two main companies can turn them back into food grade. Little bit less than Aluminum.

Only glass recycler in NYC

Colored glass is only for glass cullet.

1/2 of the piles are glass.

What are Glass cullet applications?

Mostly clear glass in the piles they receive

690tons. Run 8-12. Maintaince 1 day a week.

3/8ths inch glass sizing is what they sell to customers

Artificial reefs for nursery from backfill of the docs. Bioswales to divert from sewer water.

Mussel growth nets.

Only one plastic bag recycler that can really do anything with them.

85 employees

15 admin

15 sort.

Aluminum bales 800\$. 70 cents per pound.

600 loads per month 30-40 per load.

12 sanitation enforcers entire nyc

All steel goes out on the rail. Steel factories are setup for rail.

Barge for glass and bulky metal as well as plastics.

Energy consumption: 550mw solar, 100mw wind (upcoming). The sum of these two would make up between 10% and 15% of total consumption, so between 4300 and 6500.